RescueNet Navigator Hardware/ Software Guide

Software version 2.0
Manual version 1.0

ZOLL®

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Overview

Use the information in this guide to ensure that you are getting the most out of your RescueNet Navigator system by meeting the minimum requirements outlined in this document. Additionally, if you have the infrastructure in place as stated in this document, you will be on the most cost-effective and seamless upgrade path for future expansion.

> *Important!* Read and understand the following information before you continue.

> *Important!* DriverTech machines running Windows XP with 1GB memory and one processor/core/thread are not recommended for Navigator 2.0 and should not be used if you intend to utilize offline maps with more than 50 MB for the routing .shp file.
>
> The following devices have been certified for use with Navigator 2.0:
>
> - DriverTech devices running Windows 7 with one processor/two threads and 2 GB of memory DLI (EMS-PC -DT2500)
> - Panasonic Toughbook CF-19

Important Information

- It is *your* responsibility to purchase, install, and license third party software.

- *Minimum recommendations*: The specifications contained in this document are the *minimum* recommendations. If you add additional services/devices, remote users, etc., you will need to modify these recommendations.

- *Microsoft-compatible hardware*: ZOLL recommends and supports the use of Dell, IBM, Hewlett Packard / Compaq hardware. ZOLL Data Systems *highly* recommends that you purchase your equipment from one of the major manufacturers listed above. ZOLL does not support the use of "homebuilt" machines.

  Also, it is important to note that ZOLL software runs on a Microsoft Windows platform and therefore will not work with Novell or any other operating system.

- *Hardware/network installation and support*: ZOLL Data Systems does not provide system hardware or network installation and support. We highly recommend the use of a Microsoft

Certified System Engineer (MCSE) to assist with the installation, configuration, and testing of all hardware and network software including the SQL database.

- *Pre-installation requirement*: To maximize the benefits of your deployment, your network, Active Directory domain and domain name system (DNS) must be set up and functioning properly before RescueNet products can be installed.

  The use of workgroups is not supported; A Windows Active Directory domain is required for RescueNet products.

- *Specifications subject to change*: These specifications are subject to change without notice. Please contact ZOLL Data Systems to ensure you have the latest version of this document.

Unsupported Environments

The following list of unsupported environments will not support the installation of RescueNet Navigator at this time. If you have questions about any other environment options that are not listed here, or are not explicitly listed as supported within this document, please contact ZOLL before proceeding with any purchases/upgrades to confirm supportability.

- Server / Web Farm

- Novell Netware

- Microsoft / Windows Small Business Server

- LANDesk Software

- Domain Controllers / Active Directory Servers - Installation of the RescueNet Navigator server components on a Domain Controller and/or Active Directory Server is *not* recommended and will *not* function in this environment.

Navigator Software Requirements

Third Party Software

ZOLL's RescueNet suite of products requires a certain amount of third party software to function. It is the client's responsibility to obtain, license, and configure all third party software required by the RescueNet suite of products.

ZOLL Data Systems is not responsible for the support or maintenance of any third party software used in conjunction with the RescueNet suite of products. Please ensure that you have a valid maintenance and support agreement with all third party software manufactures.

Anti Virus Software

ZOLL performs quality assurance testing on systems that are protected by Computer Associates eTrust anti-virus software. It is possible that you maybe successfully using RescueNet products with an anti-virus solution that was not tested by ZOLL; therefore, ZOLL supports environments which are protected by any anti-virus system.

If you experience performance related issues with any ZOLL products and contact ZOLL Support for assistance, the Support department may ask you to turn the anti-virus solution off for a predetermined period of time to better understand if the anti-virus is a factor in your issue. If turning off the anti-virus software has a positive effect on the performance of your system, it is your responsibility to fine tune the anti-virus solution to minimize the impact on your system's performance.

Automated Backup Solution Software

> *Note*: ZOLL does not provide backup solutions for your software. You must develope and implement an effective backup solution that best suites your company.

The information stored in your RescueNet databases are critically important; therefore ZOLL strongly recommends that you implement a method to backup critical files and database archives. ZOLL develops it's RescueNet databases to automatically backup, with associated log files, to a specified hard disk drive location. This hard drive location, must in turn be backed up.

It is the customer's responsibility to provide a backup solution that meets your individual needs. In the event that there is a disaster or other unforeseen event that requires the system to be restored, ZOLL Support will not be able to assist you without a good, tested, and functional system backup.

Any commercial backup software solution is acceptable. Two of the industry standards are Computer Associates BrightStore available at *http://www.ca.com*, and Symantec Backup-Exec available at *http://www.Symantec.com*. Please ensure that your systems are properly protected against unforeseen problems by implementing a system wide backup solution.

Remote Access Requirements

ZOLL Support requires at least one high speed remote connection to access RescueNet Navigator. Additionally, ZOLL strongly recommends that you enable a VPN for support if your system has 20 or more concurrent users.

ZOLL recommends the use of one of the following methods for remote connections:

- LogMeIn remote support utility
- Symantec PCAnywhere™ v10.5 or higher via IP connection
- Microsoft® RDP (Remote Desktop or Terminal Services)
- Citrix® Metaframe
- Cisco® VPN utilizing IPSec over TCP (recommended for added security)

ZOLL does not support any other remote connection method not explicitly mentioned in the above list.

Virtual Environments

ZOLL tests and recommends the use of ESX Virtual Servers for your virtualization needs. This is the only virtual machine product that ZOLL has tested with the RescueNet suite of products.

The configuration and maintenance of your virtual environment is your responsibility. ZOLL Deployment and Support does not install or configure these virtual environments. If it is determined that your configuration or choice of virtual server software is causing problems with the RescueNet Suite of software, ZOLL will not be able to assist in the correction of the problem until you modify the virtual machine configuration is modified to remove limitations or you remove it completely.

RescueNet Application Compatibility Requirements

RescueNet Navigator uses shared services, database server, and/or operating system components with other products from the RescueNet family. Because of this interdependency, there are limitations to which versions of each product work together. Navigator 2.0 requires at minimum RNDB version 4.4 sp4.

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Navigator Hardware Requirements

This chapter contains specifications for the Navigator Database server, Services server, and Web server. Note that you can fulfill the needs of several servers using one physical server. For example, one physical server could act as both your Database server and your Services server. If there is a discrepancy between an individual requirement for two of the servers running on the same physical machine, configure the machine to the higher of the two specifications.

RescueNet Navigator Database Server

The RescueNet Database Server hosts the Microsoft® SQL Server database where Navigator stores the data that it collects. The primary database server requires Microsoft SQL Server 2005 Standard Edition or Microsoft SQL Server 2005 Enterprise Edition.

Minimum Specifications	
Hardware	
Processors	Dual core Xeon 5100 series
Memory	4 GB of RAM
Hard drive	Two 36 GB hard drives mirrored for OS Three 36 GB hard drives minimum RAID 5 Array for database and logs
Hardware RAID controllers	RAID controllers are recommended. ZOLL does not support software-based RAID.
Network interface card	100 / 1000 Mbps
3.5" 1.44 MB drive	Optional
CD ROM drive	Required

Modem	Optional
Audio Capability:	Optional
Software	
Operating system	Microsoft Windows Server 2003 or 2008 R2
Database management system (DBMS)	Microsoft SQL Server 2005 or 2008 Standard Editions With latest service pack installed
.NET Framework	Version 4.0 is required

RescueNet Navigator Services Server

ZOLL installs the Navigator Suite on the RescueNet Navigator Services Server. The services must be on the same network and be able to access the RescueNet Database Server as well as the Web Server.

Minimum Specifications	
Hardware	
Processors	Dual core Xeon 5100 series
Memory	4 GB of RAM
Hard drive	Two 36 GB hard drives mirrored for OS
Hardware RAID controllers	RAID controllers are recommended. ZOLL does not support software-based RAID.
Network interface card	100 / 1000 Mbps
3.5" 1.44 MB drive	Optional
CD ROM drive	Required
Modem	Optional
Audio Capability:	Optional
Software	
Operating system	Microsoft Windows Server 2003 or 2008 R2
.NET Framework	Version 4.0 is required

RescueNet Navigator Mobile Computers

ZOLL deploys the Navigator Mobile computer in the field for the display and input of user incident data. The mobile computer must have an internet based connection to the Navigator Services. For mapping and routing to function properly, the mobile client must be fed GPS information though a serial or UDP connection. That GPS data must meet the NMEA version 2 or TAIP specifications.

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>
> The following devices have been certified for use with Navigator 2.0:
>
> - DriverTech devices running Windows 7 with one processor/two threads and 2 GB of memory DLI (EMS-PC -DT2500)
> - Panasonic Toughbook CF-19

Minimum Specifications	
Hardware	
Processors	Core 2 Duo Processor
Memory	2 GB of RAM
Hard drive	One (1) 120 GB hard drive
Network interface card	100 / 1000 Mbps
CD ROM drive	Optional
Monitor	800x600 min display
Audio Capability:	Recommended
Software	
Operating system	Microsoft Windows XP Pro SP2
.NET Framework	Version 4.0 is required
Windows Installer	Windows Installer v4.5
Internet Connection and GPS	
Connectivity	Navigator requires a TCP/IP network connection back to the Navigator services for communications.
GPS	Navigator's routing and mapping capabilities require a local GPS receiver that outputs a NMEA 2.0 (or later) or TAIP stream and communicates to the Navigator computer via a serial or UDP connection.

Port Information

Navigator 2.0 Server

Navigator clients and servers use the following ports for communications. For a Navigator install or hardware replacement, ensure that you properly configure the following ports in the firewall and/or security applications.

- **8001** (**TCP**): Used for direct communications between the Navigator clients and the Navigator Messaging Server service. Direct this port to the server that is hosting the Navigator Messaging Server service.

- **8089** (**TCP**): Used for direct communication between Garmin clients and the Navigator Messaging Server service. Direct this port to the server hosting the Navigator Messaging Server service.

- **XXXXX** (**UDP**): This port provides position feeds from the vehicle by obtaining AVL information directly from the modem. Direct this port to the server hosting the Navigator Messaging Server service. You can choose any port, but you must ensure that the port you choose matches the port in the AVL receiver configuration for the Navigator server and the sending port from the modem.

Client

- *http://www.bing.com* for testing the internet connectivity when using a mixed mapping mode.
- *http://dev.virtualearth.net* for Bing routing, geocoding, and traffic alerts.
- *http://i.wxbug.net* for current weather conditions via weatherbug.
- *http://radar.weather.gov* to display current weather radar conditions over the map.

Bing Map Information

If you are using Bing maps, use the following addresses to obtain map tiles:
- 65.55.84.143 - origin.sn1.dev.virtualearth.net
- 65.55.87.28 - cds23.sat9.msecn.net
- 65.55.87.117 - cds112.sat9.msecn.net
- 65.55.87.71 - cds66.sat9.msecn.net
- May be safest to allow the following range of addresses: 65.55.0.0 - 65.55.255.255

Sample Navigator Server Configuration
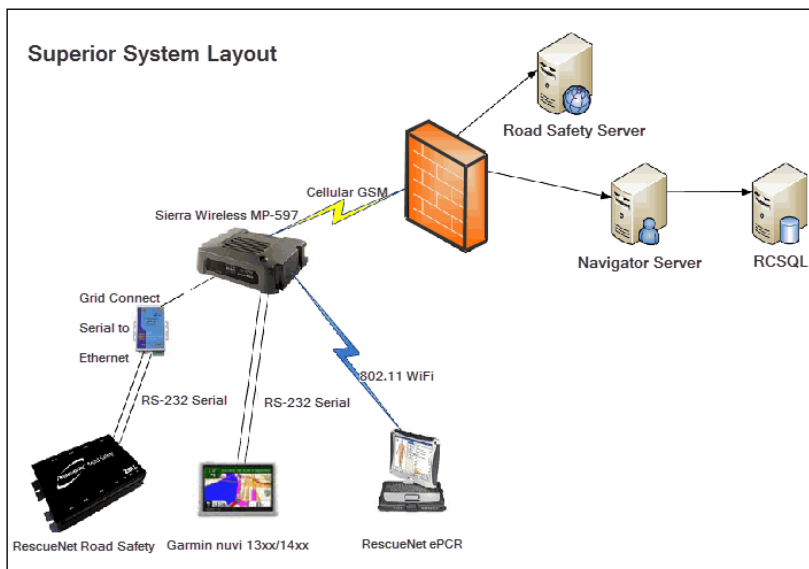
Certified Hardware

While there are many hardware products on the market that meet the Navigator requirement specifications, the following devices are the only ones that ZOLL has tested and certified.

Mobile Gateways

- ArComm ZyWAN
- InMotion oMG
- Sierra Wireless Pinpoint
- Sierra Wireless Pinpoint X
- Sierra Wireless Pinpoint E
- Sierra Wireless Junxion Box
- Sierra Wireless MP595W
- Sierra Wireless MP881W
- Sierra Wireless GX400
- Sierra Wireless MP597W

ZOLL prefers that you purchase the Sierra Wireless modems for the Navigator Garmin component, because these modems have simple connections to the Garmin devices. If you purchase another brand of modem you may require an additional purchase of a RS-232 Wi-Fi or RS-232 Ethernet Converter.

GPS Devices

- ArComm ZyWAN
- InMotion oMG
- Sierra Wireless Pinpoint
- Sierra Wireless Pinpoint X
- Sierra Wireless Pinpoint E
- Sierra Wireless MP595W
- Sierra Wireless GX400

Mobile Computer Hardware

- Panasonic Toughbook CF-19
- DriverTech EMS-PC (DT2500)

> *Important!* DriverTech machines running Windows XP with 1GB memory and one processor/core/thread are not recommended for Navigator 2.0 and should not be used if you intend to utilize offline maps with more than 50 MB for the routing .shp file.

- Logic Supply C2DVoomPC (SKU: ZOLLN1)
- Data Ltd, Inc. DLI 8300

Garmin Devices

Navigator supports any Garmin device that supports the Fleet Management Interface (FMI) version 2.6 or higher. For a current list of Garmin devices, pricing, and specifications visit the Garmin website and view "Supported Products." The list below is a taken from the website on June 1, 2012.

- dezl 560 Series
- nüvi 2xx5 Series
- nüvi 24xx Series
- nüvi 22xx Series
- nüvi 23xx Series
- nüvi 12xx Series
- nüvi 13xx Series
- nüvi 14xx Series

Use of a Garmin device also requires an accessory cable. Each device comes with two accessory cable options (see the above web page for the exact model numbers that correspond to each Garmin device):

FMI Data Cable (FMI-15 is the most common): provides the fleet management interface to a serial connection (will also require the necessary RS-232 adapter to be assembled manually).

FMI Data Cable with Traffic (FMI-45 is most common): Same as above, but includes FM receiver for traffic updates.

Technical support via the Internet

ZOLL offers our clients extensive and effective service and support via the Internet, including:

- Direct email access to our Support, Sales, and Project Management
- Online technical support
- Software upgrades
- Software service packs
- FTP access
- Online client forums
- Links to client Web pages

ZOLL Data Systems recommends you use the Internet as your primary support channel. We have the latest versions of RescueNet Navigator available on our website, as well as the latest information on service packs for Windows operating systems and Microsoft SQL Server.